

Virginia WILDLIFE

OCTOBER, 1957



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Photo by Joe Von Wormer, National Audubon Society

Outdoor enthusiasts will be listening for the bark of the
gray squirrel in Virginia Wood.

Virginia WILDLIFE

Published by VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES, Richmond 13, Virginia
A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and Related Natural Resources, and to the Betterment of Hunting and Fishing in Virginia

COMMONWEALTH OF VIRGINIA



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Cover

A "mama" 'possum seems to be enjoying her family at play on her back. She had 11 young, but apparently there was room for only four on this excursion. The opossum, only marsupial in the United States, is ever increasing its numbers and extending its range northward.

Commission photo by Kesteloo

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The Magic Of Autumn

SOUTHERN AUTUMNS come slowly, hesitatingly as a coy lover. There is "maybe" in the dawn's coolness, "perhaps" in the night's chill.

An elm's leaves become edged with red, while a near-by oak remains fresh and youthfully green. Morning-glories trail from fences, while an Autumnal Midas touches the empty fields and goldenrods wave in the thin sunlight. Kids play baseball in an empty lot, while down the street another shouting group tosses and kicks a football.

But one morning in October, Summer surrenders to the brisker autumn and the conflict ends. The sun rises red and cold from behind purple cloudbanks and the temperature plummets.

Then is the time of death for elm and oak alike, and only the evergreens, eternally young, touch the woodland with life. By the creekbanks soft cattails ride on their stilt-like stems, and the water runs more swiftly over whiter rocks. Along the roadside, cornstalks are brown and broken.

In the still air thin plumes waver sadly from chimneys, and here and there a bright burst of orange and red as leaf fires are lighted. Evening falls early, gray with a cool velvety smoke.

The moon that rises floats high and loose as if filled with hydrogen, and the landscape is a luminous ivory. The dry light wine of the evening air kindles a rare intoxication.

Southern Autumns are slow but worth waiting for.

An Editorial from the Charlotte, N. C. NEWS

Commission Plans Fishing Regulations In October

THE vast majority of proposals for changes in both hunting and fishing regulations originate with interested sportsmen or their organizations and, if they appear to be meritorious, the Commission accepts them for consideration and advertises them according to State law for debate and final adoption or rejection at the ensuing meeting. While the Commission is empowered to initiate proposals of its own, most of them actually come from outside sources.

In other words, the Commission simply sits as a deliberative body and uses its best judgment in accepting, rejecting or revising such changes in regulations as are proposed, giving especial consideration to the impact which such proposed changes might have upon the perpetuation and expansion of the species of game or game fish affected.

The dates for receiving proposals for changes in existing regulations are important—March for hunting regulation changes and October for suggested changes in fishing regulations. Interested sportsmen and their groups and also supervisors of counties should feel free to offer any suggestions that they think will be to the benefit of all parties concerned.

It too often happens that suggested changes in both hunting and fishing regulations come in too late to be given place on the agenda for these meetings at which final action is taken. The law requires their publication in advance in order that interested parties may register their approval or objections. The proposals at the March and October meetings are like the docket in a law court.

Every Virginian is free to offer suggestions felt to be in the best interest of the game and the hunters and anglers. In fact, they are encouraged to give thought to such matters. Then, in orderly fashion, the Commission sits in judgment and has to make the final decisions.

Restoring Wildlife Abundance

AUTUMN is a season when many Americans are more conscious of their wildlife resources than any other, for they can watch the great migrations of the birds traveling in high wavering wedges toward the South and they can see the hunters making preparations to go out into the marshes and forests. Swarms of creatures will never cloud the skies or crowd the lands and waters as they did in primeval America. Today many kinds of wildlife are on the trail to recovery but not until our woods and fields and waters are occupied to capacity will officials, sportsmen, and naturalists be satisfied with their progress in the intense drama of restoring an abundance of wildlife to America.



A deer whose right hind leg was mangled by free-running dogs.

The Free-Running Dog Menace

By ROBERT R. BOWERS

Associate Editor, Virginia Wildlife

FREE-RUNNING, uncontrolled dogs are on the rampage in Virginia, cutting a swath of destruction through poultry, livestock and game resources. And the situation is aggravated by the ever-growing number of dogs abandoned to roam at will. These uncontrolled, often half-wild animals play havoc with the hunting season outlook in many areas, especially west of the Blue Ridge Mountains.

In Southwest Virginia, during a two-month winter period, these dogs killed more deer than the legal hunters bagged during the open season. The condition is duplicated in many other localities. It is difficult, of course, to estimate how the reproductive rate of deer is being affected by free-running dogs which pursue the pregnant does in early spring, but many authorities strongly suspect that dogs are one of the greatest factors holding the deer population to a relatively low level in eastern Virginia.

But deer are not alone in jeopardy. Our upland game birds and animals generally nest on the ground. Every spring many of their nests and young fall easy prey to stalking cats and wandering dogs.

Recent studies indicate that most of the nesting losses of wild turkeys are caused by desertion. A wild turkey

hen will often abandon a nest if she is flushed from it early in the season and nesting losses represent one of the most serious factors in the low rate of increase among turkeys. It is a well known fact that dogs are responsible for a large percentage of these turkey nesting losses and desertion.

But free-running dogs are not the only vandals. They are known to slaughter nests of quail and rabbits, worry and harass doe, deer, pregnant with fawns, to mangle and kill adult deer, and to kill fawns too young to run or hide. But dogs of pure blood, bred to hunt and scent out their prey, also ferret out nests of quail, grouse, turkeys, and rabbits.

Sometimes these highly-trained dogs do their worst damage under the watchful eyes of their owners. Following behind combines and mowers, as these machines cut down and destroy cover, these dogs find easy pickings as the young game in the nest is exposed or the mother tries to run.

Game, however, is not the only thing to suffer from uncontrolled dogs. Often it is the poultry and livestock farmers who take the greatest direct losses. The amount of livestock and poultry damage from wildlife can



Photo by H. S. Mosby

TOP: Many licensed dogs go big game hunting on their own.

BOTTOM: Ruins of a Brunswick County rabbit nest destroyed by roving dogs.

hardly compare to the amount for which dogs are to blame. Wildlife is usually the first suspect, but when the facts are all in, the "varmints" usually turn out to be dogs. One such case was reported not long ago in Chesterfield County and the vandal turned out to be an innocent looking stray mongrel dog. It was caught in the act of killing poultry, but not until it had destroyed 89 fryers in a single night.

Sportsmen and farmers alike often cry out against the wild predators,—bear, fox, wildcat. But the dogs left to run rampant through our southern forests and fields often far outnumber these native meat-eaters. In some western counties, livestock growers figure a one percent annual loss from free-running dogs alone.

One incident which took place in the Jefferson National Forest last spring indicates the situation and makes possible some comparison between the native predators and these dogs running at large.

During the month of March a group of students from V.P.I., Blacksburg, were working on the field portion of

their master's theses. They set out live traps in the forest for bobcats and raccoon and they caught nine raccoons, two bobcats and 13 dogs.

If this were an indication of the true proportion of wild predators to uncontrolled dogs, there were between six and seven dogs for every bobcat. At the same time, it was unlawful to have dogs in the forest, since it was during the spring breeding season. The nearest dwelling was some ten miles away. Some of the dogs were licensed and found to be from localities many miles distant.

Truly wild animals are native to the land and their prey has become quite adept, through generations of competition, at coping with the danger. Of course, a few of the prey will be caught, even when food and cover is adequate. But when the prey's home environment is suitable, wild predators are not a sizeable threat.

On the other hand, dogs and cats are strange to these wild animals and often are more cunning than the wild predators, so that the prey is less able to evade them. Instead of a few being caught, entire groups are sometimes destroyed.

It is not generally realized just how many of these uncontrolled and unwanted dogs are left to roam at will. When it is known that an animal average of some 40,000 dogs, unlicensed and unwanted, are destroyed by the law enforcement division of the Virginia Game Commission, the seriousness of the situation and the potential damage they can do becomes more obvious.

In addition, the State Highway Department reports some 10,000 dead dogs picked up from our highways each year. But this annual known loss scarcely dents the dog population. In fact, in spite of the destruction of more than 50,000 dogs, the revenue from the sale of dog licenses continues to increase at a rate of five percent over each previous year. Figuring that during 1952 some 450,000 dog licenses were sold in Virginia, with a potential increase of five percent each year, the number of licensed dogs in the state could by 1960 reach the 650,000 mark. But the estimate of licensed dogs does not include the unlicensed and uncounted dogs born in fields, barns and homes. For every one destroyed, probably two or more are born unwanted.

It doesn't take long to get a rough idea of the number of self-hunting dogs and cats we have. Drive any country road at night. Count the cats picked up in the headlights. Count the dogs. Stop the car and listen. How many dogs can be heard on the trail of a deer?

One observer reported 18 dogs seen in an eight or ten mile stretch of road from Highland Springs to Bottoms Bridge on Route 60. During the same trip, more than 25 cats were seen lurking along the road's edge or running across the highway. These numbers are not high, compared to the number seen in many other sections of the state, but they are high relative to the fact that all were roaming at will, trailing and killing what they found.

Where do these free-running, self-hunting animals come from? Where do they live? What do they eat? They may belong to your next-door neighbor, who pays little attention to his pets except to feed them. Even worse, he may neglect to feed them. Many come from well-meaning citizens whose dog or cat had a litter which was unwanted. Rather than painlessly destroy these cute puppies or kittens, they carry them off into the woods and let them go, letting fate decide their future.

Or they may have come from the fellow up the street who went on his vacation leaving his pet to fend for itself. After all, he'll only be gone a week or two and "Everybody knows a dog can find food if it gets hungry."

Many of these dogs and cats die a painful, starving death, but not all. A few will survive, half-starved perhaps, but strong enough to live, breed and reproduce. Hungry, half-wild, they must live off the land, seizing every available morsel for food, be it poultry, livestock or game. Is it more humane to condemn these erstwhile pets to a painful marginal existence or to put them painlessly away?

The domestic predator problem has been with us as long as people have owned dogs and cats. In recent years the number of these animals has increased to such proportions that the damage they do is beginning to alarm even the casual observer. It is a serious situation which must be faced and dealt with effectively.

The greatest bar to a solution is the general public's lack of understanding of the problem. It is so common for unwanted puppies and kittens to be turned loose in the woods that such a method is taken for granted and allowing the family pet to run at will is commonly accepted as the only humane thing to do.



Commission photo by L. G. Kesteloo

Even a good dog can go bad if its owner fails in his responsibility to give it proper food and care.

What can be done? What can you say about a man's dog without offending him? Are we in need of legislation—or education?

Licensing is only part of the answer. Every state has its dog laws, a primary method of control. Practically all require dogs to be licensed. It seems an obvious solution, but, as already pointed out, even licensed pure blood dogs, valuable from a financial and recreational point of view, are among the offenders.

Many owners seem to feel that obtaining a license is the end of their responsibility and that it sets the dog free, though it may be to roam, to mangle and to kill. Something more than a licensing law is needed.

The problem of the domestic predator does not lie in whether it is right or wrong to destroy these animals, but rather in the reason behind the animals getting out of control. Last year in Virginia 3,991 of the 8,209 warden convictions came from violations of the dog law. Add to this 43,225, one for each uncontrolled dog destroyed during the year, and the number of known violations climbs so high that it is unbelievable.

The ultimate solution is with the individual dog owner. Until he realizes that in accepting a pet he also accepts responsibility for it, then the problem will continue to grow worse. Homes should be found for unwanted dogs or they should be destroyed, not turned loose in the nearest woods to fend for themselves. Anyone who has a dog he wants to keep should care for and be master of the animal. It is because of human negligence that the problem of predatory pets has arisen, so the solution, voluntary or legal, leads back to the owner.



Photo by J. J. Shomon

This meek looking mongrel killed 89 chickens in a single night's marauding.



Photos by H. A. Humphreys

West Point High School students receiving rifle marksmanship instruction at the West Point Armory and Recreation Center with caliber .22 rifles.

FIREARMS EDUCATION—A MUST

By JOHN W. COURTNEY, JR.

President, Virginia State Rifle and Revolver Association

VIRGINIA should feel proud of the phenomenal decline in the number of hunting firearms casualties during 1952-53 as compared with the previous season. During the 1951-52 season, there were 11 fatal and 15 non-fatal shootings. During the past season, the numbers were reduced to 3 fatal and 12 non-fatal.

It may be more than coincidence that during the last few years, our Commission of Game and Inland Fisheries has been promoting an excellent safety campaign, that 39 senior rifle and pistol clubs and 32 junior rifle clubs affiliated with the National Rifle Association have been giving individual instruction in rifle and pistol marksmanship throughout the state. In addition, many hunt clubs are taking greater pains to instruct new members in the safe handling of firearms and ways to minimize hazards of the hunt. Proud indeed is the hunt club which can look back on a season unmarred by a firearms death or injury.

The National Rifle Association has an enviable record of safety. During the last 26 years, the NRA has been sponsoring a junior rifle marksmanship program. Over

two and a half million youths have taken this course of instruction under NRA certified instructors without a single serious accident, giving further proof that *Education* with firearms is more effective than prohibition.

In the 1952 Uniform Casualty Report which included Virginia among the 34 states and provinces which turned in a report to the NRA, of 1105 casualties, only 287 (one-fourth of the total) resulted from the misuse of a rifle, and in Virginia (1952-3), not a single high power rifle was involved. With this record, I am amazed that there is a single rural Virginia county which wants to prohibit hunting with a high power rifle. Right about this time, I can almost hear some shotgun hunters mumbling about 287 fewer hunting accidents if rifles had been prohibited. All right, let's face it! If shotguns had been prohibited, there would have been 818 fewer casualties. It's the men rather than the type of firearm that makes the difference.

Let's take a look at the most usual forms of ignorance and carelessness which resulted in hunting casualties. These percentages are taken from the NRA 1952 Uni-

form Hunter Casualty Report, and, looking them over, it might help the hunter avoid being involved in similar incidents: victim unseen by shooter, 26 percent; victim covered by shooter swinging on game, and victim mistaken for game, each 14 percent; shooter stumbled and fell, 11 percent; victim moved into line of fire, 7 percent; trigger caught in brush, removing loaded weapon from vehicle, loading and weapon fell from insecure rest, each 4 percent; riding in vehicle with loaded weapon, crossing fence with loaded weapon, and unloading, each 3 percent; horseplay, "didn't know it was loaded", 2 percent; clubbing game or cover with firearms, 1 percent.

To my knowledge, the NRA is the only organization sponsoring a National Marksmanship Program. The three basic reasons are: National Defence, Safety and Recreation. What are we as individuals doing to back the NRA in this program? Are we encouraging the sponsorship of this program on a local level, or are we throwing a wrench in the wheels by instituting prohibitive legislation which reduces the incentive to own a firearm? Are some of us unwittingly giving succor to a potential aggressor nation by instituting prohibitive legislation which, if unchecked, might lead to a police state with eventual disarming of our honest citizens? My opinion in the controversy of prohibition of firearms vs. instruction and education with firearms is strongly in favor of INSTRUCTION and EDUCATION.

Do you know how to organize a senior or junior rifle club? Would you like to get a fist-full of ideas? Then write to The National Rifle Association, 1600 Rhode Island Avenue, N.W., Washington 6, D. C. Take advantage of the NRA's wealth of knowledge, experience and assistance.

In November 1952 I organized the junior division of the West Point Gun Club. Membership was taken from the West Point High School of which Mr. H. A. Humphreys is principal. Mr. Humphreys permitted students to be excused from study hall to attend classes in marksmanship. The West Point Armory and Recreation Center permitted us to use its gymnasium rifle range (moveable backstop), and Company K, 176th Infantry, National Guard, loaned us the caliber .22 rifles needed for instruction and firing, and 22 boys and girls completed the course which included a written examination. All qualified as NRA junior marksmen or higher; 12 qualified over the Military .22 caliber junior rifle course; 10 won school letters. The six who joined the National Guard qualified with the M1, .30 caliber rifle this spring.

Do you remember how you wanted to learn to shoot a rifle when you were a youngster? Have you taken a course in marksmanship while in service and do you feel that what you learned could bring joy to some youth and perhaps save a young life? If so, I challenge you to take a group of youngsters and teach them the safe and accurate manner to handle a rifle.

If you do not want to go into a full fledged rifle marksmanship program, the NRA still has a program for you, the NRA Hunter Safety Program, now being sponsored and encouraged on a nationwide scale, after its successful trial in New York State. The complete course of instruction requires a minimum of four hours. The purpose of this course, as quoted from the NRA Hunter Safety Handbook, is as follows:

The NRA Hunter Safety Course stresses proper gun handling in circumstances met in the hunting

Members of the West Point High School rifle team check their scores fired in the West Point Armory and Recreation Center. Specifications for the moveable backstop may be obtained from the National Rifle Association.





NRA Instructor, John W. Courtney, Jr., left, and Principal H. A. Humphreys of the West Point High School, checking a point in the NRA Rifle Instruction Manual. In the background are three charts obtained from the National Rifle Association.

field. Basic information about guns and ammunition, especially information applying to the safe operation of guns is included. Sportsmanship is taught too, because safe hunting and sportsmanship go hand in hand. There is no intent to teach expert marksmanship. That is a separate subject requiring considerably more study and practice. The sole aim of this course is to give a hunter basic information which should enable him to avoid hunting accidents. The NRA wishes to spread the principles of proper gun handling and safe hunting to as many people as possible. The more safe hunters there are—the more enjoyment hunting will be for all.

The course is also planned for use in any state which has a law requiring proper instruction in gun handling prior to issuance of a license to hunt.

Included in the NRA Hunter Safety Course is nomenclature of guns, description of ammunition, types of guns, sights, safeties, proper care, proper gun handling, safety rules, zones of fire, self control, accuracy, sighting-

in, positions, trigger squeeze, clothing, observance of laws, equipment, orientation and courtesy.

It appears that sportsmen, from the practical point of view of self-preservation should be interested in making such a hunter safety program available to all new hunters and to some of the shooters who have been hunting for a number of years. Such a course should be a MUST with all hunt clubs. Write at once for information on how to become a member of the NRA and for an application to be an NRA Hunter Safety Instructor. An application for membership may be obtained from *The American Rifleman* which is sent monthly to NRA members. Your Commission of Game and Inland Fisheries and your Virginia State Rifle and Revolver Association will be anxious to hear of your organization of a course in hunter safety, so notify each of the number of classes you organize and the number of instructees in each class. We want to enjoy with you the success of the NRA Hunter Safety Program in Virginia. Let's make the sportsman's by-word in Virginia "HUNT SAFELY THROUGH FIREARMS EDUCATION."

LICENSE FEES

(See Hunting Law Digest, pages 14-15)

City resident, to fish	\$ 1.00
County resident, to hunt and fish	1.00
State resident, to hunt	3.50
State resident, to fish	3.00
State resident, Big Game Stamp, to hunt bear and deer	1.00
National Forest Stamp, to hunt, trap and fish	1.00
Nonresident, to hunt	15.75
Nonresident, to fish	10.00
Nonresident interstate 3 consecutive days, to fish in interstate impounded waters only	1.00
Nonresident, Big Game Stamp, to hunt bear and deer	2.50
Special Stamp, to hunt bear and deer in Bath,	

Bland, Botetourt, Buchanan, Craig, Grayson, Giles, Highland, Rockbridge, Smyth, Washington, Wise and Wythe	1.00
Nonresident in Smyth and Wythe	5.00
County resident, to trap	3.00
State resident, to trap	7.50
Nonresident, to trap	50.00

License is required to take, capture or kill any wild bird or wild animal except of landowners, their husbands or wives and their children, resident or non-resident, within the boundaries of their own lands.

Licenses may be obtained from the Clerks of the Circuit Courts of the Counties or the Corporation Courts of the cities and other authorized agents.



Bow-woman Mrs. Joseph Parker prepares to try her skill.



Commission photo by Kesteloo
Mrs. Parker at home, with daughter Diane and husband's deer trophy.

First Lady of Archery

By

FLORENCE McDANIEL

MRS. JOSEPH PARKER, bow-woman extraordinary of Portsmouth, doesn't just tag along when the men go hunting. About the only active woman archery hunter in Virginia, she carries her own 40-45 pound bow with a quiver of two and four blade arrows when she hunts. She uses the men's weight bow, for regulations establish a minimum of 35 pounds for women.

Although she has made no big game kill, as has her husband who set a world's record with a double kill of deer within five seconds in 1948, Mrs. Parker goes on regular hunting expeditions and has won various small game trophies, each of which takes thirty points.

With Raymond and Bill Braswell of Lawrenceville, the Parkers go hunting every year to Blackbeard's Island, about fifty miles below Savannah, Georgia, and during the last two years they have hunted in the Kentucky Woodlands Refuge. In 1952 they hunted along the North River and Mrs. Parker did meet some big game. She came face to face with a bear one day

when she was out alone, but she didn't want to take a chance on wounding the animal when she had no hunting companion. Luckily, the feeling of respect was mutual, so she and the bear parted without casualty.

On a hunt, she and the other archers wear camouflage suits such as the marines use and their bows too are camouflaged to keep down reflections. They use a jeep on their hunting expeditions.

Joseph Parker, who has killed four deer, is a pattern-maker at the Norfolk Navy Yard. The Parkers' four-year-old daughter, Diane, goes on all the hunting trips and has her own small bow for target practice with her mother, who uses a 25 pound bow for that.

The Parkers manufacture their own tackle and their stands of arrows, quilted with turkey feathers, are winged and balanced works of art.

Mrs. Parker is a member of the National Field Archery Association, of the Chesapeake Bowmen in Portsmouth (30 members), and of the Princess Anne Bowmen Club in Norfolk (75-80 members).

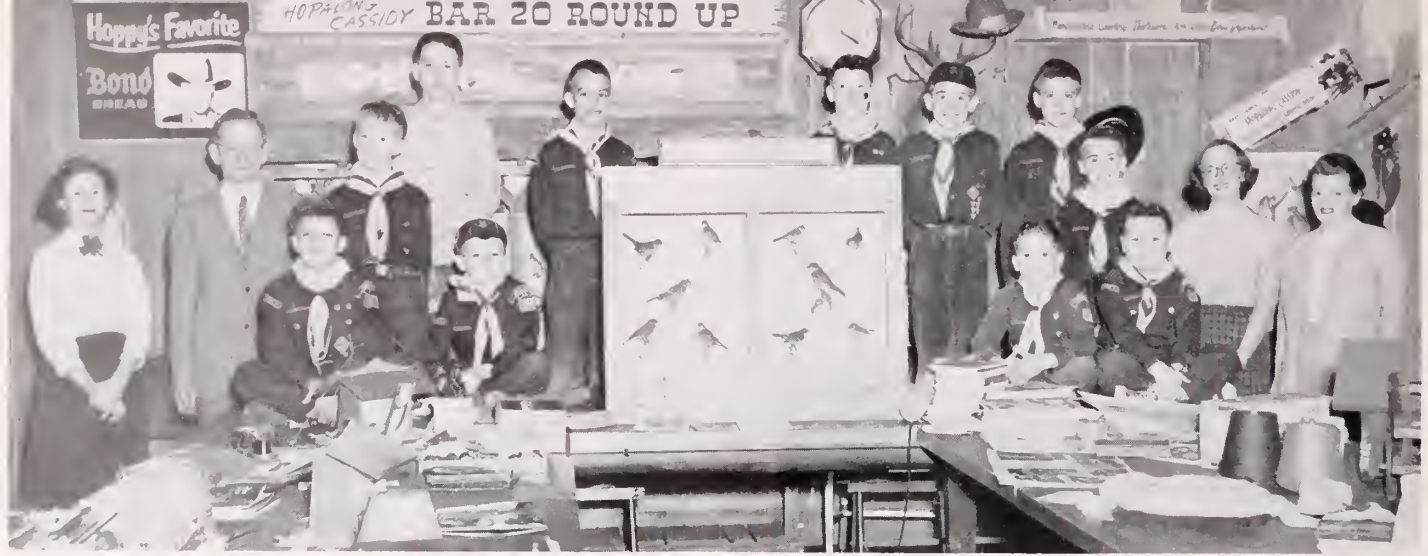


Photo by White Studio

Conservation and the Franklin Federal By HELEN K. ADAMS

THE conservation of money is the nearest you'd expect a savings and loan association to come to a wildlife and conservation program. However, at Franklin Federal Savings and Loan Association in Richmond youngsters can see many pictures and displays of wildlife and are taught something of the importance of conservation.

Mrs. Rose Goodman Weidenfeld, Public Relations Director, has seen to it that the children's Hopalong Cassidy section of the Association is abundantly supplied with aids along this line.

The basement at 616 E. Franklin is completely devoted to space for working with the children and taking care of their savings is only a small part of what goes on there.

One of the most popular displays is that of the bird houses and feeders made by the President of the Association, James B. Bourne. Also included are charts showing animals and summer birds. Being shown to the public for the first time is a display cabinet loaned by the Virginia Commission of Game and Inland Fisheries containing 10 stuffed birds commonly found in the state. When a proper identification is made, a buzzer sounds. This display has been enjoyed by grownups as well as the children and it is a rare person indeed who can resist stopping to see how many birds he can identify. As one little boy wrote in his thank you note after a visit with his school class, "We certainly did like the birds with buzzers."

The Commission's booklet, *Birdlife of Virginia*, is also used as part of their educational program, along with old copies of *Virginia Wildlife*, which are given to the various groups so that they can get acquainted with the magazine as well as to further foster their interest in conservation.

Although the individual child is always made quite welcome and is free to examine the displays and materials scattered on the several long tables in the room, it is through working with the grade school classes and the boy and girl scout groups that Mrs. Weidenfeld is able to use her program to the best advantage.

The classes or groups are scheduled to visit for the

whole morning and the session usually ends with lunch together around the tables, the Association providing milk and doughnuts for all, as well as a large decorated cake to take back to the school.

While Mrs. Weidenfeld's talk to the children centers around "The Story That Money Tells", with emphasis on saving, sharing, and spending, her principal aim is to create a feeling of friendliness between the Association and the youngsters. "We like to feel that they get roots here and spread out in all directions. For example, from our little dairy display they might get interested in farming and study the ways in which conservation is so necessary and important on the farm.

"Our program has never ending possibilities—it is like a magnet; other groups or persons find out what we are doing and want to help the children, too. A man came one day to fix some of our machines and saw what we were trying to do. He went home and found a lot of copies of *Nature Magazine* and gave them to us." And so their program spreads out to reach more people all the time.

Local businesses and organizations have been most cooperative in providing samples and free literature to give each child to take home with him. Most cherished gift that leaves with each group is a bird house or feeding station full of seeds that they can put in their schoolyard. Literally hundreds of these bird houses and feeders, made by Mr. Bourne, have been given away. A girl from Glen Allen wrote recently that she plans to raise sunflowers and wheat this summer so that they will have plenty of seeds for their feeder at school next fall.

With a followup program by the teachers at the school or by the scout leaders, it is easy to see how much benefit can be gained by the leads and ideas Mrs. Weidenfeld provides. It is significant to note that more principals are beginning to accompany the classes and teachers when they visit Franklin Federal. Commented one, "I've never seen such excitement and enthusiasm over anything in our school before. I'll just have to come and see this inspirational program in operation for myself."

CONSERVATIONGRAM

Late Wildlife News . . . At A Glance

SPECIAL SERVICES OFFICER MERRITT TAKES COLLEGE POST. Robert E. Merritt, Special Services Officer of the Virginia Game Commission for the past few years, left September 1 to accept the position of Associate Professor of Biology at Longwood State Teachers College.

GAME COMMISSION PLEDGES AID ON POLLUTION. At a conference in Richmond, representatives of the Game Commission promised the Water Control Board all possible help, including the service of game wardens, in securing evidence leading to the prosecution of industries and individuals for killing fish by the diversion of effluent to the water courses of the State.

NEWSPAPER SURVEY OF VIRGINIA RIVER POLLUTION. A series of eleven articles by Ed Swain, appearing Sunday and daily in the Richmond Times-Dispatch, helped bring the conservation problem of pollution in our rivers to public attention.

SUBSCRIPTIONS OF WILDLIFE TO PENINSULA SCHOOLS. The Virginia Peninsula Sportsmen's Association has provided a fund to supply 40 subscriptions of Virginia Wildlife to Peninsula Schools, according to R. W. Vann, treasurer. W. C. Snyder is chairman of distribution.

VIRGINIA WATERFOWLERS GAIN EXTRA SHOOTING DAY. When officials of the United States Fish and Wildlife Service and the Virginia Game Commission realized that January 10, closing date for the season on ducks, geese and coots, falls on Sunday, they agreed to have the season come in at noon on November 11 and go out at sundown on January 9, giving the hunters an extra shooting day.

ALGAE FARMING MAY BOOST FOOD SUPPLY. Take a brighter view of green scum on ponds, for the Carnegie Institution has just released a report of experiments which indicate that future human populations may be kept from starving by high-protein foods processed from improved strains of algae.

NASH CONSERVATION AWARDS ANNOUNCED. Ten cash awards of \$500 each for professional conservationists and ten plaques and citations for non-professionals have been announced by Nash Conservation Awards Committee, 745 Fifth Avenue, New York 22, N.Y.

CONGRESS APPROVES "PILOT PLANT" WATERSHED PROGRAM. The 83rd Congress cheered conservationists by approving a Department of Agriculture appropriation bill which includes a new, unbudgeted item of five million dollars for soil conservation and flood prevention treatment on fifty "pilot plant" watersheds to demonstrate how run-off control in uplands can reduce flood crests downstreams. Results of the program may reverse federal flood control policy.

DROUGHT TAKES TOLL OF VIRGINIA WILDLIFE. Continued drought took a serious toll of Virginia wildlife, I. T. Quinn, executive director of the Virginia Commission of Game and Inland Fisheries reports. Many streams in the state, especially the smaller ones and those in the mountain trout stream areas, reached a dangerously low level. Many fish died or fell prey to mink and raccoon. Pond fishing was especially poor this summer. Many wild fruits and berries which normally would have ripened by September dried on the shrubs and the shortage will adversely affect the food supply of many land animals.

OPEN HUNTING SEASONS AND BAG LIMITS

When open date for any species of game bird or game animal falls on Sunday, hunting will not be permitted until following day.

QUAIL, RABBITS, GROUSE, TURKEYS*,

PHEASANTS*:

West of the Blue Ridge and on National Forests	November 16-January 1
East of the Blue Ridge	November 20-January 20
Stafford County	November 20-January 5

*Turkeys:

CLOSING DATE:

Alleghany, Augusta, Bath, Botetourt, Frederick, Highland, Page, Rockbridge, Rockingham, Shenandoah, and that section of Amherst and Nelson Counties lying west of the Blue Ridge December 5
Culpeper, Fauquier and Orange Counties December 31
Stafford County January 5

Unlawful to hunt turkeys in Bland, Buchanan, Carroll, Clarke, Craig, Dickenson, Fairfax, Floyd, Franklin, Giles, Gloucester, Grayson, Greene, Henry, Lancaster, Lee, Madison, Mathews, Montgomery, Middlesex, Norfolk, Northumberland, Patrick, Pulaski, Rappahannock, Richmond, Roanoke, Russell, Scott, Tazewell, Smyth, Warren, Washington, Westmoreland, Wise and Wythe Counties.

*Pheasants:

Unlawful to hunt in Madison County and in the magisterial districts of Falmouth, Hartwood, and Rockhill in Stafford County.

BAG LIMITS: Quail, 8 a day, 125 a season; Rabbits, 6 a day, 75 a season; Grouse, 3 a day, 15 a season; Turkey, 1 a day, 2 a season; Pheasant, 4 a day, 20 a season.

Exceptions: Turkey—Bag limits in Alleghany, Augusta, Bath, Botetourt, Charles City, Fauquier, Frederick, Highland, James City, New Kent, Page, Rockbridge, Rockingham, Shenandoah, and that section of Amherst and Nelson Counties lying west of the Blue Ridge Mountains, 1 a day, 1 a season.

DEER

It is lawful to kill male deer in any county of this state (where there is an open season) with antlers visible above the hair.

See Bag Limits* (exceptions as to sex, seasons and bag limits).

Unlawful to hunt with dogs in Nelson County lying west of the Southern Railway tracks, and that section of Amherst County within the National Forest.

When deer are found doing substantial damage to crops or orchards, game warden may issue to owner permit to kill such deer when in act of doing damage. Carcass of deer so killed must be turned over to game warden for delivery to a charitable institution or hospital.

OPEN SEASON:

East of the Blue Ridge	November 20-January 5
West of the Blue Ridge	November 16-21

Exceptions:

Amherst, Nelson and Rappahannock November 16-21
Princess Anne, Norfolk and in that portion of Nansemond County lying east of a line as follows: beginning at a point on State highway number ten where it intersects the Isle of Wight County line, thence along such highway to its intersection with the corporate limits of the city of Suffolk; thence easterly, southerly and westerly with such corporate limits to their intersection with State highway number thirty-two; thence along such highway to its intersection with State highway number thirty-seven, thence along State highway number thirty-seven to the North Carolina line. October 1-November 30.
Isle of Wight and in that portion of Nansemond County to the west of the line established in the foregoing paragraph November 10-January 5.

Unlawful to hunt deer in the following counties: Arlington, Bedford, Bland east of highways No. 21 and 52, Buchanan, Campbell, Carroll, except west of New River, Clarke, Dickenson, Fairfax, Floyd, Franklin, Giles in that portion west of New River, Henry, Loudoun, Lunenburg, Madison, Montgomery, Northampton, Nottaway, Patrick, Pittsylvania, Prince William, Pulaski, Roanoke in Haven's Refuge, Russell except in that portion lying on the south side along north of Clinch Mountain bounded on the east by U. S. Highway No. 19 from the Washington County line going north to Moccasin Creek Road No. 676 following this number west to where it intersects No. 679 following No. 679 east to where it intersects No. 613 following No. 613 to Scott County line, during the open season for hunting deer west of the Blue Ridge Mountains, Tazewell in that portion north of Clinch Mountain.
No open season on the deer west of the Blue Ridge Mountains.

*BAG LIMIT:

One male deer a season except as follows: Amelia, Charles City (either sex in Chickahominy Magisterial District during the last two hunting days of the open season only).

1953-1954 VIRGINIA CODE

Chesterfield, Dinwiddie, Gloucester, Isle of Wight, James City, Nansemond, New Kent, Norfolk, Princess Anne, Southampton (in that section starting at the Sussex County line at intersection of Highway No. 605 to Highway No. 628 south to Dory thence in an easterly direction on Highway No. 326 to Berlin at intersection No. 612 thence north-easterly direction to No. 618 to Sadlers Cross Roads to intersection No. 600 to Sussex line (either sex), Surry, York, 1 a day, 2 a season. Caroline, Essex, Halifax, King and Queen, 1 a day, 2 a season, one of which may be a doe. Sussex, 1 a day, 2 a season, either sex in Wakefield, Newville and Waverly districts only. Prince George, lawful to take deer of either sex in Brandon Magisterial District during the last 15 days of the open season for taking same, 1 a day, 2 a season.

BEAR

OPEN SEASON:

West of the Blue Ridge November 16-January 1
Hunting bear west of the Blue Ridge Mountains with dogs during the open season for hunting deer is prohibited.

East of the Blue Ridge November 20-January 5

Exceptions:

Bland October 15-January 1
Princess Anne, Norfolk and in that portion of Nansemond County lying east of a line as follows: beginning at a point on State highway number ten where it intersects the Isle of Wight County line, thence along such highway to its intersection with the corporate limits of the city of Suffolk; thence easterly, southerly and westerly with such corporate limits to their intersection with State highway number thirty-two; thence along such highway to its intersection with State highway number thirty-seven; thence along State highway number thirty-seven to the North Carolina line October 1-November 30.
Isle of Wight and in that portion of Nansemond County to the west of the line established in the foregoing paragraph November 10-January 5
To trap, Statewide November 15-December 31
Bag Limit: One bear a season (trap and or/hunt).

FOX

OPEN SEASON:

Hunt with dogs,
Statewide September 1-August 31

Exceptions:

Fairfax, Fauquier, Loudoun,
Rappahannock September 1-March 31
Hunt with gun:

East of Blue Ridge October 1-January 20
West of Blue Ridge November 16-January 1

Exceptions:

- Open season on all National Forest lands November 16-January 1
- Except in Tazewell where season will close January 20
- and in Chesterfield, Franklin, Grayson, Patrick, Pittsylvania, and Amelia (Giles District only), season November 20-January 31
- Owner or tenant may kill or have killed foxes at any time on his land or land under his control.
- Frederick, hunt with gun and/or dog, regardless of snow November 1-February 28
- Lunenburg October 1-January 31
- Rockingham October 1-March 31
- Scott, Washington and Wythe October 1-February 28
- Buchanan and Rockbridge, continuous open season.
- Unlawful to shoot foxes in Albemarle, Amelia (except Giles District), Amherst (except in National Forest area), Appomattox, Charlotte, Clarke, Culpeper, Dinwiddie Darville District only), Fauquier, Halifax (except on regularly organized game preserves), James City, King George, Loudoun, Louisa, Nottoway (except red foxes), Prince Edward and Rappahannock.
- It shall be lawful to hunt red foxes in Nottoway and Richmond Counties October 1-January 31

Trap:

Unlawful to trap foxes with steel traps except when done on land by owner, members of his or her household, tenants, or those having permission to do so from the landowner or his or her agent.

Open Season: Statewide November 15-January 31

Exceptions:

Albemarle November 1-November 30
Buchanan Continuous open season
Nelson November 1-January 31
Richmond County November 15-January 31

ENSED HUNTING LAWS

Trapping foxes in Clarke, Fauquier, Loudoun and Rappahannock prohibited.

MINK, OPOSSUM AND RACCOON

OPEN SEASON:

Statewide to hunt October 15-January 31

Exceptions:

National Forest areas November 16-January 1

Buchanan, continuous open season on mink.

Statewide to hunt and trap mink .. December 15-January 31

Exception: Buchanan County continuous open season.

Statewide to trap opossum December 1-January 31

Raccoons: Unlawful to trap, except in Charles City, James City, Isle of Wight, Southampton, Appomattox, Amelia, Brunswick, Dinwiddie, Greensville, Lunenburg, Mecklenburg, Nottoway, Powhatan, Buckingham, Prince Edward, Prince George, Surry, Sussex, and Cumberland they may be trapped December 15-January 31

BAG LIMITS:

Opossum and mink; none.

Raccoon, 3 a day, 20 a season, except National Forest areas, 2 a day, 12 a season; individual or organized hunt.

RABBITS

OPEN SEASON:

To Trap November 15-January 31.

Bag limit: 6 a day, 75 a season.

MUSKRAT AND OTTER

OPEN SEASON:

To Hunt none.

To Trap Otter December 15-February 28.

To Trap Muskrats January 1-March 15

No bag limit.

BEAVER

OPEN SEASON:

To Hunt none.

To Trap By special permit to landowners.

SQUIRRELS

OPEN SEASON:

East of the Blue Ridge November 20-January 20

West of the Blue Ridge and

National Forest Areas November 16-January 1

Exceptions:

Accomack, Bedford, Henry and

Northampton Counties September 15-30

November 20-January 20

Carroll, Franklin and Patrick September 1-January 20

Floyd September 15-January 20

Scott September 15-January 5

Stafford November 20-January 5

Bland, Buchanan, Dickenson, Giles, Lee, Montgomery,

Pulaski, Roanoke, Russell, Smyth, Tazewell, Washington,

Wise, Wythe September 15-30

November 16-January 1

Amherst, Clarke, Frederick, Highland, Madison, Nelson,

Page, Rappahannock, Rockbridge, Rockingham, Shenandoah

and Warren (except those portions of said counties

lying within the boundaries of the National Forest

areas) October 15-31

November 16-January 1

No hunting on National Forest areas until November 16.

Bag Limit: 6 a day, 75 a season.

Trapping squirrels is prohibited.

ELK

Open Season none

NATIONAL FORESTS

Unlawful to hunt with either gun or dog or have in possession or in car any uncased gun or rifle during general closed hunting season. No hunting on National Forests until November 16.

STATE FORESTS

Should there be an open season on any species of game bird or game animal, announcement will be made on or before November 1, 1953.

NATIONAL PARKS

National Parks are wildlife sanctuaries; hunting and possession of firearms in these areas prohibited by Federal regulation.

NOTE: Should an emergency arise with reference to any species of game bird or game animal during the open season provided herein the Commission reserves authority to curtail or otherwise regulate the season on such species.

Copy of Migratory Game Bird Regulations available upon request.

SPECIAL REGULATIONS

Firearms

Game birds and game animals may be hunted with a shotgun which shall not be larger than 12 gauge or capable of firing more than three shells at any one time, or with a rifle.

Unlawful (Statewide) for any person to hunt with firearms while under the influence of alcohol, brandy, rum, whiskey, gin, wine, beer, lager beer, ale, porter, stout or other liquid beverage or article

containing alcohol or while under the influence of any narcotic drug or any other self-administered intoxicant or drug of whatsoever nature.

Game Warden and Sheriffs shall enforce the provisions of this act.

Unlawful (Statewide) to hunt or kill deer with a rifle of a calibre of less than twenty-two (22) to the inch at Charles City, Chesterfield, Hanover, Isle of Wight, New Kent, Prince George, Southampton, Surry, Sussex, Accomack and Northampton counties, that part of the National Swamp in Nansemond and Norfolk counties located as much as 100 rods from any railroad, public highway or other place where the rifle is used, or a stand erected for not less than 100 rods above the ground. It shall be unlawful to use a rifle of 20 calibre for hunting and/or killing deer.

Unlawful to hunt deer with rifle or shotgun loaded with slugs in King William County.

Unlawful for any person to hunt game in the Counties of Appomattox and Buckingham with a rifle larger than a twenty-two (22) calibre.

Unlawful in Caroline County to hunt or shoot any wild bird or wild animal with a rifle larger than twenty-two calibre using in such rifle any ammunition larger than a twenty-two short, twenty-two long, or twenty-two long rifle cartridge. Unlawful to hunt deer in Caroline County with rifle.

Unlawful in Charles City, King George Counties to hunt with a rifle of a calibre of more than twenty-two.

Unlawful to hunt or kill any wild bird or wild animal, including any predatory or undesirable species, with firearms or any other weapon on Sunday.

Unlawful to shoot any game bird or game animal from an automobile or other vehicle.

Unlawful to hunt with either a dog or a gun or be in possession of any firearm (except peace officers and game wardens) in the National Forest during the general closed hunting season.

Unlawful to have gun or rifle with dog in the daytime in the fields, woods or waters of Augusta, Clarke, Frederick, Page, Shenandoah and Warren and in counties east of the Blue Ridge, except in Patrick, during the general closed season, except where migratory game birds, deer, bear and fox may be hunted during other periods; and except as to rabbits and squirrels by landowners upon their own lands.

Unlawful to have in possession loaded firearms on any public highway unless such person is authorized to hunt on private property on both sides of such highway in counties having a population in excess of four thousand and not in excess of four thousand, five hundred.

It shall be unlawful to shoot a rifle or pistol at wild birds and wild animals on or over the public inland waters of this State or to carry a loaded rifle or pistol on a boat or other floating device on said public inland waters for the purpose of hunting wild birds and wild animals, except when said rifle or pistol is being transported for this purpose from one point to another unloaded.

It is unlawful to shoot any firearm from any boat or other floating device while hunting wild birds and wild animals on the Appomattox River between the mouth of Namozine Creek and Genito bridge or to carry any firearm on a boat or other floating device on said river for the purpose of hunting between the points mentioned, except when such firearm is being transported unloaded.

It is unlawful to have in possession any shotgun or rifle for the purpose of hunting wild birds or wild animals on the water areas, including shores of the sea in Accomack, Northampton and Princess Anne Counties during the closed season on migratory game birds, provided, that this shall not apply to persons holding permits granted by the Executive Director of the Commission authorizing the same, or to persons engaged as officers of the peace, while actually in the performance of their duties as such. For the purpose hereof the word "possession" shall include having a gun for the purpose of hunting wild birds or wild animals in one's boat or other conveyance while in the above mentioned areas.

It shall be unlawful to shoot any firearm at wild birds or wild animals from any boat or other floating device on the waters of Blackwater River, Somerton Creek and Nottoway River from Monroe Bridge to the mouth thereof, and Lawns Creek dividing Isle of Wight and Surry Counties beginning at Mills bridge thence northeast six miles to the James River, or to carry any firearm on a boat or other floating device on said waters between the points aforesaid for the purpose of taking wild birds or wild animals, except when such firearm is being transported directly across the said waters unloaded for the purpose of hunting during the open season for hunting deer in that section.

It shall be unlawful to shoot any firearm at wild birds or wild animals from any boat or other floating device on the waters of the Nottoway River in Sussex County, or to carry any firearm on a boat or other floating device on the said waters for the purpose of taking wild birds or wild animals except when such firearms are being transported directly across the said waters unloaded for the purpose of hunting during the open season in that section for the taking of upland game.

Unlawful to hunt furbearing animals in any County in the daytime with firearms, except during the general open season for hunting game birds and game animals in the County.

Other:

Game Tag must be immediately attached at Checking Station to bear, deer and turkey killed (Statewide).

Non-Migratory game birds and game animals may be hunted from half an hour before sunrise to half hour after sunset.

Unlawful to hunt deer with dogs west of the Blue Ridge.

Unlawful to hunt or attempt to kill any species of game after having obtained the day's bag limit or the season's limit during any one day of any one season.

Unlawful to occupy any baited blind or other baited place for the purpose of taking or attempting to take any wild bird or wild animal or to put out bait or salt for any wild bird or wild animal for the purpose of taking or killing.

Unlawful to kill or capture any wild bird or wild animal adjacent to any area where a field or forest fire is in progress.

Unlawful to hunt or track woodcock or non-migratory game birds or game animals in the snow (except that deer may be hunted Statewide in the snow and bear in counties west of Blue Ridge), either on or off one's own land; provided that landowners may kill rabbits in the snow on their lands for their own personal use, and foxes may be hunted with dogs, but not with guns, in the snow.

Unlawful to hunt, take, capture, possess, transport, ship, sell or to attempt to do any of these things except as specifically provided by law or by regulation of the Commission.

Unlawful to destroy or molest in any way the nests, eggs, den, or young of any species of furbearing animal or to take or carry under a special permit, provided that this shall not apply to any animal or bird defined by law or regulation to be of a predatory or undesirable species.

Unlawful to smoke or to carry from den or nest to den, egg, nest, or young of any species of furbearing animal or to take or carry under a special permit, provided that this shall not apply to any animal or bird defined by law or regulation to be of a predatory or undesirable species.

Unlawful to hunt in Buchanan and Elizabeth Counties with a firearm in your possession any axe or saw without obtaining a special permit.

Unlawful to hunt with dogs in Appomattox County or Surry.

Unlawful to use dogs for hunting bear, foxes and bobcats in Surry, Appomattox, Buchanan, Albemarle, Augusta, Bath, Botetourt, Brunswick, Giles, Highland, Page, Rockbridge, Rockingham, Shenandoah, Warren and within the National Forests boundaries.

See LICENSE FEES, page 40

The Elusive Killer of Burkes Garden

By L. L. DICKENSON

SHEPHERDERS in the mountain fastness of Burkes Garden must have wished back Daniel Boone and the long hunters with their wilderness cunning to cope with Tazewell County's mysterious killer.

Every morning there were freshly killed sheep in some flock of the mountain-locked pastures. At first the owners, producers and breeders of the valuable herds thought it must be the work of sheep-killing dogs which have been taking an annual toll of about one percent of the flocks in the county. But it was soon obvious that the methods of this killer were not those of the dogs which terrify the flock, attacking the frightened animals with reckless abandon and gorging themselves on the flesh of their victims.

This killer or killers used a deliberate stealthy approach and by a single bite on the head and throat, in which an upper fang usually penetrated the skull, caused instant death. To drink the warm sheep blood seemed the motive. Occasionally there was a tear into the internal organs and some of the vital ones were devoured.

Footprints in the mud were pronounced those of a wolf and the first person to see the creature from a distance described it as wolf-like. Others caught fleeting glimpses of "the varmint." For ten months no one pinned down a more accurate term, while the mystery beast continued its bloody rampage, destroying more than \$20,000 worth of stock in its marauding operations which killed over four hundred sheep and lambs, nearly a fourth from purebred Hampshire flocks which

have earned for Burkes Garden the title, "Hampshire Throne of Virginia."

The marketing of the wool from 15,000 sheep and the 17,500 lambs they yield was too big a part of Tazewell's farm income for the herders to take such depredations lightly. Flock owners hired skilled local hunters, consulted the United States Fish and Wildlife Service, sought help from the Virginia Game Commission, organized hunts and carried on trapping under expert direction—but everything failed.

One of the heavy losers adopted the "foxhole" technique, digging out a ten or twelve foot square hole about three feet deep, and building a block house of baled straw over and around it. He stood sentinel there many cold winter nights and finally was rewarded with a shot which drew first blood, but it didn't deter the killer to any noticeable extent.

Finally, Clell Lee, of the famed Lee Brothers, big game hunters of Tucson, Arizona, was engaged and brought four of his blue tick hounds. The day after he arrived at Burkes Garden, his dogs did jump a wolf-like creature in a thickly wooded ridge and it ran across the open field for the protection of the Garden Mountain which surrounds the picturesque mountain basin. Two hunters fired at it from the stands, but rain that night stopped further hunting.

Sunday morning another kill was discovered and the dogs were loosed. In a very short time they started the animal for another memorable run for the tall timber, but he headed for a stand occupied by two alert marks-



men, and 10 or 11 shots fired alternately from a Hornet .22 and a Winchester repeating shotgun, loaded with 00 buckshot, ended the murderer's career.

When news spread through the mountain valley that "the varmint" had been killed at last, thousands came to see its body hanging from a rustic frame at the front of Tazewell Courthouse and it was an animal that few of them had ever seen before.

It was as Lee had suspected when the killer's techniques were first described to him, for he had remarked then: "It looks like I have come all the way from Arizona to hunt down a coyote with dogs, two of which I thrashed soundly only last week for chasing coyotes." For it seems that coyotes in their native habitat are regarded by the big game hunters somewhat as rabbits are by the quail hunting sportsmen of the East who invariably punish their bird dogs for chasing rabbits.

It was indeed a coyote, a male weighing $35\frac{1}{2}$ pounds, measuring more than four feet in length, with a mouth spread of six inches, and fangs protruding one inch from the gum.

Lee described his quarry as normal adult size, with all the skulking cunning and vicious characteristics of one in his native habitat, the western prairie and moun-

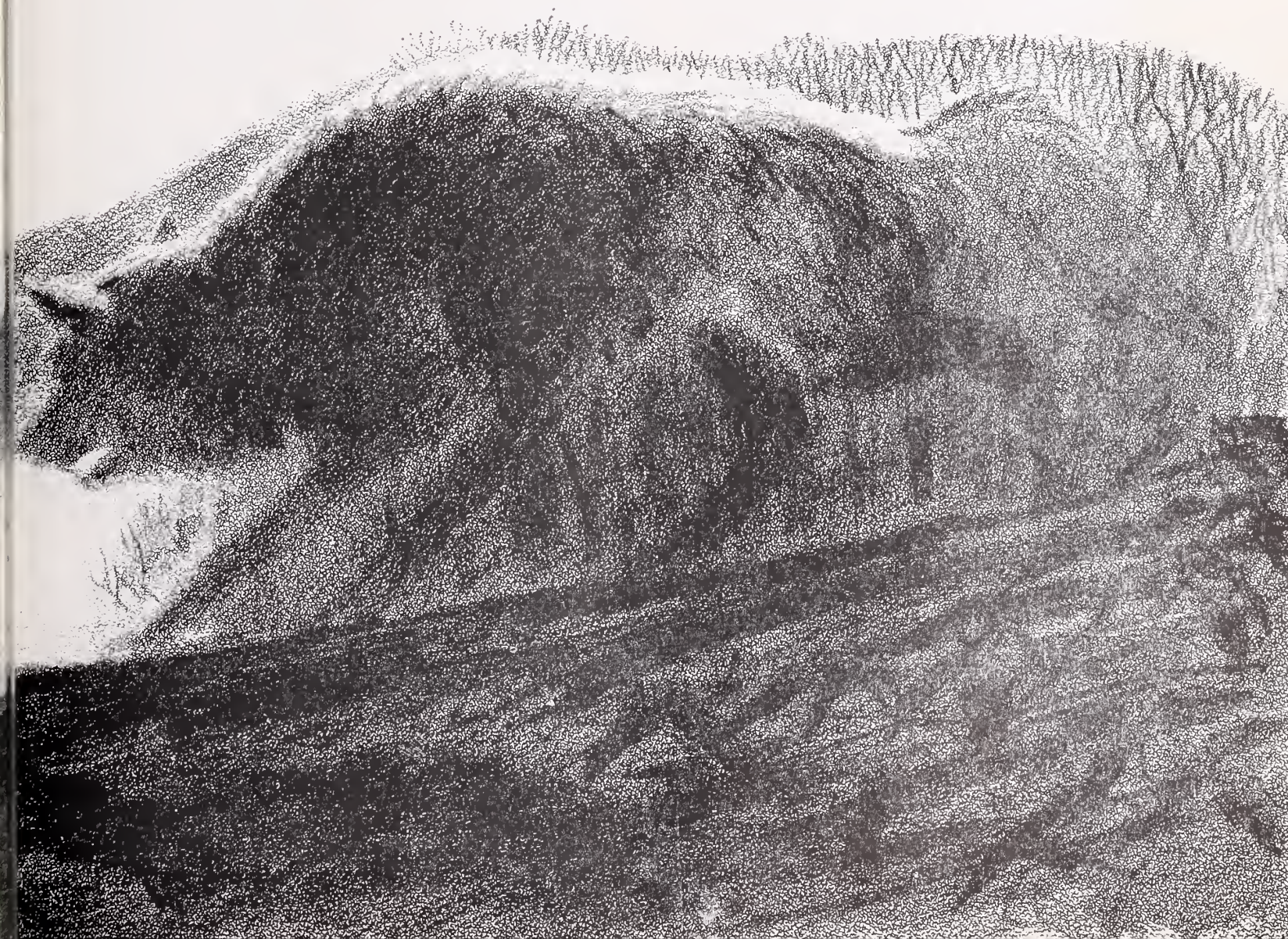
tains. Primarily a carnivorous animal, they subsist usually on rodents, rabbits and small forms of animal life and rarely develop the vicious killer habit. They do not respond satisfactorily to domestication. Their range is seldom more than a few miles and at night they keep up communication with their mates by occasional howls, but a lone one is silent. So far as Lee was informed, the coyote had never crossed the Mississippi eastward of its own volition.

A pair of coyote pups had been received at the Richlands Express Office by a Jewell Ridge resident who confined them in a chicken house, from which they escaped a year or so later, about the time the raiding on Burkes Garden began.

A female coyote was run over on Route 460 near Claypool Hill, not long afterwards, and a few days later a farmer in the Bluestone Valley shot at an animal among his sheep which resembled a coyote. Probably it then crossed the mountain into the Garden and when the killer coyote was skinned, some number four shot were found just under the skin on the shoulder, encased in a cartilagenous covering, indicating an old wound.

That the coyote was the sole raider is indicated by

(Continued on page 23)



HIGHLIGHTS OF VIRGINIA'S 1952 DEER STUDY

By
E. V. RICHARDS
District Game Technician



Commission photo by Kesteloo

Cooperation during Virginia's 1952 deer season produced much valuable herd management data.

THE hunting of Virginia's number one big game animal, the white-tailed deer, has taken on tremendous importance in the Old Dominion within the last ten years. Due to the rapid increase in Virginia deer populations, especially in the western counties, the need for reliable information as the basis for future deer management policies led the Virginia Commission of Game and Inland Fisheries to begin a statewide investigation of white-tailed deer in 1952.

Virginia is faced with the countrywide problem of producing more deer hunting each year for an ever increasing army of deer hunters and for effective deer management it is imperative to know how fast deer are increasing and how many deer can be harvested by legal hunting each year to assure future hunting.

Eastern Virginia, comprising Tidewater and Piedmont counties, have well established deer herds dating back to the days of the Indians. Western Virginia areas represent a growing deer herd brought about by successful restocking.

About 1910, the white-tailed deer was all but wiped out in the mountains of western Virginia. Native deer survived in only a few western counties. Year around poaching, self-hunting dogs and widespread market hunting brought about this situation.

During the late 1920s, local sportsman organizations west of the Blue Ridge began to buy deer from northern states for release in these depleted counties. Then the Virginia Game Commission and the United States Forest Service began a widespread deer restocking program on the George Washington and Jefferson National Forests. From 1927 to 1943 about 1800 deer were released west of the Blue Ridge. With the help of local sportsman groups, increased law enforcement, efficient fire protection and the outlawing of dogs on national forest lands, the deer herds slowly began to grow. Today the highest deer concentrations and annual kills are found in some of these restocked counties.

In all probability there are two races or forms of white-tailed deer in Virginia. The original deer (*Odocoileus virginianus virginianus*) is characteristic of the eastern counties. West of the Blue Ridge the deer herd is made up of a mixture of northern white-tailed deer (*Odocoileus virginianus borealis*) which represents the type of deer brought into Virginia through the restocking program carried on during the 1930s. These deer from New York, Michigan, Wisconsin and Pennsylvania show slight differences from the native Virginia deer, averaging slightly heavier and taller than the deer native to Virginia.

All 855 deer examined during the 1952 season were checked by game technicians operating special deer check stations in each of the four areas studied. Deer were weighed to the nearest pound, either live-weight or hog-dressed, then aged by examination of the teeth through replacement and pattern of wear. Antler points are not an indication of age as some believe.

During the 1952 deer season, fifteen deer aging stations were set up in Bath, Augusta and Shenandoah counties, with trained game technicians collecting information on weights, ages, body and antler measurements.

Additional checking stations were named by game workers in the Dismal Swamp area of Norfolk and Nansmond counties in southeastern Virginia.

The deer season west of the Blue Ridge in 1952, was six days, beginning November 17 and running through November 22. In Bath, Augusta, Rockingham, Shenandoah, Frederick and a portion of Warren counties, the last day, November 22, was set aside as "hunters' choice" day, all deer being legal. Bucks with antlers visible above the hair were legal at all other times.

In the Dismal Swamp, the deer season began October 1 and ran through November 30.

The deer herd in Shenandoah County was studied because it represented probably the fastest growing

deer herd in Virginia. The native deer had been practically wiped out before 1920. Restocking began in the 1930s when 66 deer were released under the co-operative wildlife plan of the Virginia Commission of Game and Inland Fisheries and the United States Forest Service. The deer began to increase rapidly and portions of Shenandoah County were opened to hunting in 1940. In only 13 years from the last restocking, the deer herd increased so rapidly that herd reduction by hunting does became necessary.

In 1947 farmers began complaining to the Commission about deer damage to crops and, orchard men about damage to their young trees. Although in 1949 an unidentified disease killed over a hundred deer in the Vances Cove and Cedar Creek areas, farm damage complaints increased during the following year. Deer repellents and other devices brought little result. Deer browselines began to appear in certain mountainous areas and preferred deer food began to disappear. The deer herd had to be reduced and during the 1952 season hunters harvested 1196 in the county, the highest kill in the State total of 10,866 deer.

The Big Levels Refuge in eastern Augusta County is a 30,000-acre Federal refuge, established by President Roosevelt in 1936, which is managed by the United States Forest Service. Restocking of deer was started in 1932 and a total of 78 had been released by 1940. In 1949 and 1950 deer damage complaints increased and in 1951 the Forest Service declared a special hunting season of five days, by permit only. During the first three days antlerless deer only were legal game and on the last two days bucks only were legal. A total of 120 deer, of which 85 were does, was harvested from Big Levels in 1951.

Bath County represents one of the few areas west of the Blue Ridge mountains containing a deer herd of the original Virginia white-tailed deer. For several

years the Virginia Game Commission realized that the herd was reaching a point where doe deer had to be harvested, for the buck kill was remaining about the same, many deer were dying from unknown causes, and poor antlers and deer sizes were revealed at checking stations, symptoms of range deterioration because of continuous heavy browsing.

Antler development of deer taken from the Dismal Swamp area has been very poor, with few big trophies of eight or more points. Deformed antler development appears more widespread in the swamp herd than elsewhere.

The investigation showed that deer killed in Shenandoah County average heavier and larger than those in Bath County or the Big Levels Refuge. Dismal Swamp produced the lightest deer examined. The 1952 statewide average weight of buck deer was 117 pounds hog-dressed; doe deer, 83 pounds.

It was found that hunters consistently overestimate the weight of their deer by 25 to 75 pounds. The average hunter loses all conception of weight after dragging the animal through the woods for a mile or two.

Of the 855 deer weighed during the 1952 season, the two heaviest were bucks which tipped the scales at 190 pounds, hog-dressed. One was an 11-point buck from Shenandoah County and the other, a 10-point buck from Smyth County. The live weights of these animals would have been about 215 pounds.

Of 82 doe deer examined in Bath county, not one weighed more than 100 pounds hogdressed, but in Shenandoah County, where preferred deer foods are more plentiful, out of 171 does, 40 scaled more than 100 pounds and the largest weighed 120. The writer believes that the northern white-tailed deer blood lines established in Shenandoah County are responsible for the consistently larger body size and weights of deer as revealed in this study. Deer will be weighed and measured in other mountain counties to determine if this pattern of larger deer in restocked counties continues.

Antler development has a direct relationship to food quality. If the food browsed by deer is high in food values, i.e., calcium, phosphorus, and other minerals, the antler growth will be rapid and well developed. If the food is less nutritious and low in essential minerals, antler growth will be slower and less developed. It is startling to notice the number of yearling bucks having only spike horns.

In the Dismal Swamp area, all yearling (1½ years) deer checked had only spike horns. In Bath County 80 percent of the yearlings had spike horns. But in Shenandoah County only 35 percent of the yearling bucks had spike horns and the rest had three or more points.

In the Dismal Swamp area, the antler development seems to be inferior because of some mineral deficiency in the deer foods and measurements indicate that the antler spread is more constricted, possibly because of



Big game checking stations established on a statewide basis proved to be the key instrument of the Virginia deer study.

(Continued on page 22)



Photo by J. J. Shomon

"The true conservationist is grateful . . . for endless beauty, inexhaustible occupation for the intellect, and a setting wherein he can find tranquillity of spirit."

THE TRUE CONSERVATIONIST*

By ALEXANDER F. SKUTCH

WITHIN the short space of two generations, conservation has become popular. It receives growing publicity, is much in the public eye, is beginning to claim the allegiance of wealth and power. Accordingly, it faces the dangers peculiar to a successful cause. Half a century ago, when conservationists were few and fought a seemingly hopeless battle against financial interests, greed, and popular apathy, they could at least be sure of the sincerity of those who fought under their banner. No one was likely to become an active conservationist for the material advantages it would bring him. Today, when conservation is supported by strong organizations and can offer lucrative posts, its ranks are in danger of being weakened by . . .

" . . . such as for their bellies sake

Creep and intrude, and climb into the fold."

As the first enthusiasm hardens into organization, spiritual dedication tends to cool into mere intellectual assent, while method takes the place of zeal. Such has been the history of every religion. In our own case, there is a perilous tendency to regard conservation as a matter of technology, of hiring specialists to discover

facts about Nature, and others to carry out their recommendations, rather than a peculiar attitude toward the natural world and a way of living. That is, it is infected with that blindness so widespread in our age, which believes that external arrangements can become an adequate substitute for internal soundness, governmental regulations for personal competence. It is led astray by the tragic fallacy that we can create a Utopia by remaking the physical world without first transforming ourselves: that we can improve society without regenerating men individually.

True conservation is above all an attitude of mind, and a way of life. It is living in intense awareness that the world is a vast community of living things, whose potentialities are not exhausted by our individual enjoyments, or even by those of the whole of mankind. The true conservationist regards science and technology as at best a useful instrument, which like any tool may be worthless, or even dangerous, except in the hands of one who knows how to apply it to worthy ends. And these ends are determined by the character and aims of the user. The correct application of our understanding of natural processes, of our ability to influence them, depends upon our qualities of mind and heart. What, then, are the attributes of the true conservationist,

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which make him the safe repository of power to control events in the natural world? We can distinguish at least nine such attributes.

Gratitude—The true conservationist is grateful to the natural world as the foundation of life, health, prosperity, and of all that makes life pleasant to him. He is thankful not only for the means of bodily existence, but for endless beauty, inexhaustible occupation for the intellect, and a setting wherein he can find tranquility of spirit.

Love—Out of gratitude grows love. The true conservationist loves the natural world for its endless bountifulness to himself and those dear to him. But mere usefulness to ourselves is not an adequate ground for love. A tool or a piece of machinery, as an automobile, may be useful to us, but we do not truly love it, because all the qualities for which we value it can be exhausted through its service to us, then we throw it away. That is truly lovable which, however much it may serve or gratify us, can not thereby exhaust those qualities which endear it to us; as a mother, however much affection she may bestow upon a child, does not thereby destroy her capacity for devotion. Love is bestowed upon an object which serves or delights us, yet transcends our grasp. This is preeminently a characteristic of the natural world. The true conservationist loves not only Nature as an aggregate, but each living thing individually, because of its essential likeness to himself.

Compassion—From love springs compassion. The true conservationist is compassionate to all living things, refraining from wantonly injuring them, and helping

"The true conservationist realizes that Nature is too vast and manifold ever to be completely understood by him . . ."

Virginia Chamber of Commerce photo by Flournoy



Commission photo by L. G. Kesteloo

" . . . the true conservationist is generous. He wishes others to enjoy the blessings that Nature provides . . . all those treasures of beauty and knowledge which the natural world offers to those capable of appreciating them."

them to live by preserving conditions favorable to them.

Generosity—Because he is aware that he is only one living being among countless others, because he loves other beings and feels compassion for them, the true conservationist is generous. He wishes others to enjoy the blessings that Nature provides, not only the material means of subsistence, but all those other treasures of beauty and knowledge which the natural world offers to those capable of appreciating them. He wishes to share these goods not only with all beings now living, but with all future generations.

Frugality—In a world such as ours, a truly generous man will be frugal, because he is fully aware that under no possible economy can Nature provide enough of the means of subsistence to satisfy the needs of all those creatures that are born into it. He will not waste food, nor consume carelessly any of the products of the earth, for when he does this some other creature goes hungry. Remembering that all that he eats, all except plain water that he drinks, practically everything he wears, and indeed every organic product that he procures, represents so much of the limited productive capacity of the earth diverted from other claimants to himself, he will use no more of them than is necessary to maintain health. This economy extends only to material things and need not touch the life of the mind or spirit, for it is the peculiarity of spiritual goods that they are never exhausted by use. Whereas the food I eat can nourish only myself, I do not by enjoying the beauty of a natural object diminish its capacity for yielding like enjoyment to countless others.

Foresight—In his dealings with the natural world, the true conservationist is foresighted. He looks not merely to the immediate results of his activities, but how they will affect his own welfare in future years, and that of generations yet unborn.

Fortitude—The true conservationist is courageous. Because the maxims that guide his conduct are derived from sound understanding of natural processes and



HIGHLIGHTS OF VIRGINIA'S 1952 DEER STUDY

(Continued from page 19)

the tangled wilderness in which those deer live. The number of crowded and deformed antlers indicates that these deer seldom develop a prize set of antlers due to the thick brush.

It is believed that soils having a limestone origin in Virginia consistently produce larger antlered bucks. This will be studied further using browse studies and soil maps.

The hind leg measurement, taken from the hock to the tip of the hoof, revealed that Shenandoah County deer are a bit larger animals than those found on the other areas studied.

In general, deer food conditions in Virginia are adequate. Food scarcities will occur west of the Blue Ridge long before eastern Virginia has to worry about deer food scarcities. Nature herself is changing much of the deer range west of the Blue Ridge. Large areas of once productive deer range are slowly becoming less productive each year due to the continuous closing of the forest canopy, shading out the less tolerant shrubs and young trees below that make up the understory on which deer feed. As less sunlight reaches the floor of the forest, the undergrowth slowly dies and once good deer range becomes less productive.

One great help in the creation of new deer range on Virginia's two national forests is the habitat improvement program carried on by the Commission and the United States Forest Service. Under this program, clearings are being made in the national forest for deer use. Woods roads and trails are also being widened. To date, 6,000 woods clearings, covering one acre in size and hundreds of miles of roads have been developed in this manner.

The population of white-tailed deer in Virginia has been estimated by wildlife workers at between 80,000 and 100,000 animals. Since it is impossible to determine the exact number of deer on an area, efforts will be

made to determine deer densities accurately by use of such indexes as deer bed and pellet counts, deer observation records and deer drive counts.

The overall condition of the 855 deer examined in 1952 was excellent. Large accumulations of fat on most animals was due to a very heavy acorn crop. Disease, parasites and abnormalities were noted in very few animals examined and are of little importance. Several were found to have ticks, one young buck from Shenandoah County had skin tumors called "papillomas" around the right eye, about six deer in Rockingham and Bath counties had nose-bot larvae (*Cephenemyia sp.*), a parasite which is seldom the cause of death, and some gullet worms (*Gongylonema pulchrum*) have been found in many areas west of the Blue Ridge, but the significance of this parasite in Virginia deer is not known.

No abnormalities other than freak antler development were noted. Several deer had deformed antlers. In the Dismal Swamp area, numerous deer examined had antlers growing grotesquely over their necks. This was probably due to the thick brush hitting the antler while in the "velvet" stage.

The "hunters' choice" day during the 1952 deer season was definitely needed and will prove beneficial. Bath County in particular was in need of herd control as indicated by poor antler development and body weights. Shenandoah County and Big Levels deer herds will need additional herd control in future years to maintain the present antler development and body weights of the deer.

The Commission of Game and Inland Fisheries has recently expanded the deer investigations under the direction of Stuart P. Davey, Deer Project Leader. Plans have been made to operate additional deer aging stations throughout the State during the 1953 deer season. Game workers will be present at these stations gathering additional information on deer and deer hunting to assure sound management of Virginia's growing deer herds in the years to come.

THE TRUE CONSERVATIONISTS

(Continued from page 21)

basic ethical principles, he will not be driven from his course by the threats or the ridicule of the ignorant, the selfish, and the greedy.

Humility—The true conservationist realizes that Nature is too vast and manifold ever to be completely understood by him, and makes no absurd claim to exhaustive knowledge of natural processes. Accordingly he hesitates to meddle with them, for the outcome of his shortsighted interference may be far other than he expects. On another side, his humility is such that he makes no arrogant claims of the absolute superiority of his own kind over all other kinds of life. He does not in blind boastfulness assert that mankind is the one end of creation, or the single branch of the animal kingdom through which evolution can continue indefinitely toward a glorious future. His humility leads him to sus-

pect that the universe enfolds numberless potentialities of which he is ignorant, and that there may be whole realms of value of which he is unaware.

Reverence—The natural world is the visible expression of a creative force that far surpasses our understanding. Although it contains much of the pain, discord and frustration which we call evil, it holds also a vast amount of the joy, love, beauty and harmony that we intuitively recognize as good. This good seems to be the manifestation of a beneficent Power, which we can not contemplate without a feeling of reverence. From the Source, this sentiment is reflected back upon all its creatures, which the true conservationist regards with reverence. He has "reverence for life."

Finally, it may be noted that the attributes we have ascribed to the true conservationist are in general

moral and religious virtues, or that these several attributes closely approximate them. Gratitude is by nearly all men considered an essential component of a noble character, while ingratitude is looked upon as base and mean. Christianity emphasizes love, Buddhism compassion, while generosity is another word for the charity, which every great modern religion enjoins. Frugality is almost synonymous with temperance, a cardinal virtue in every important system of religion or ethics, including even that of Epicurus. It suggests that freedom from sensual excesses, that moderation in eating, drinking and dressing, which is the indispensable accompaniment of an exalted spiritual life. Foresight is an extension of prudence, which has been defined as that equal regard for all parts of our expected existence which prevents the sacrifice of the future to immediate advantages. But it goes beyond prudence in suggesting regard for a future that stretches far beyond one's own earthly span, and in safeguarding the rights of this future with scientific knowledge no less than moral restraint. Humility and reverence are primary religious attributes; to be haughty and irreverent is incompatible with piety.

It is because of this close correspondence between the qualities that make a true conservationist and the virtues

inculcated by religion, that religion has through the ages exerted a powerful and on the whole beneficent influence upon man's treatment of the natural world—a fact which we are apt to forget. The earlier primitive religions were everywhere largely concerned with preserving the natural foundations of tribal prosperity, hence deprecated wanton destruction of animal and vegetable life. Not only did they predict dire supernatural retribution for the wanton slaughter of creatures used as food, in some instances they prescribed severe penalties to be inflicted upon those who needlessly destroyed trees or animals. Oriental religions, by insisting upon the sanctity of all life, have played a part in the conservation of Nature which we in the West can scarcely conceive. Our Western religions have not been so favorable to the cause of conservation, yet if we lived in stricter accordance with the principles of their greatest prophets, all of us would be better conservationists, and better practitioners of our religious beliefs.

Neither these attributes of a true conservationist alone, nor knowledge of Nature alone, will make us good and effective conservationists. But when we unite the correct mental attitude with true understanding of natural processes, we become conservationists in the best sense of the word.

THE KILLER OF BURKE'S GARDEN

(Continued from page 17)

Clell Lee holds the "varmint" which he came all the way from Arizona to hunt down. He is flanked by marksmen L. Alfred Janes and R. Hugh Cax, who ended the killer's career. On the extreme left is Bowen Meek, such a heavy loser that he disposed of his flock after decimation. Others, from left to right, are Lacy Burkett of Bluefield, second from the left, Bill Shelbourne of Tazewell, Ben Bird, Bland County game warden, and Barnes Crackett of Bluefield.

Photo by Harmon Studio



the fact that not a single sheep was killed in succeeding months. The recipient of the coyote pups was arraigned in trial justice court to answer the charge of having brought predatory animals into the state in violation of the statute. He introduced letters from the sheriff of an Oklahoma county who proposed to exchange a pair of coyote pups for a red fox, to which he had replied that it was doubtful if he could capture the

fox. A final letter, to which he had not responded, notified him that the pups had been shipped and the next day the troublemakers arrived at the express office. He had taken them home and put them in the chicken house from which they eventually escaped. Because of the time elapsed, the warrant was dismissed. So ended the story behind the career of Burke's Garden's ruthless, cunning and insatiable killer.



AN ALBINO PURPLE MARTIN IN NORFOLK

Mr. L. H. Zehmer of Norfolk has sent us the following unusual report on an albino purple martin:

"Mr. James R. Shepherd, 647 Connecticut Avenue, Norfolk, Virginia, has had Purple Martins in his two boxes for about four years now. This year one pair of Martins raised a perfect Albino as witnessed by Mr. Shepherd, myself and several others. This particular bird fell from its nest when nearly ready for flight, which gave the opportunity for inspection. It was snow white without a blemish. Its eyes were pink. Since its nesting compartment was definitely known, it was returned to it through the use of a long pole where its parent birds were seen to resume feeding it. It later reached maturity and for a period of two weeks returned to the same nesting compartment along with the other young birds and their parents. For all we knew it was in a perfectly healthy, normal condition, but after about two weeks it came in one night, collided with a tree branch and landed on the branch of a very small pine. It was picked up with the idea of keeping it overnight to be liberated the following morning, but it died during the night. The bird had undoubtedly reached full growth as its wing feathers had developed to a point where they extended out beyond the tail feathers."

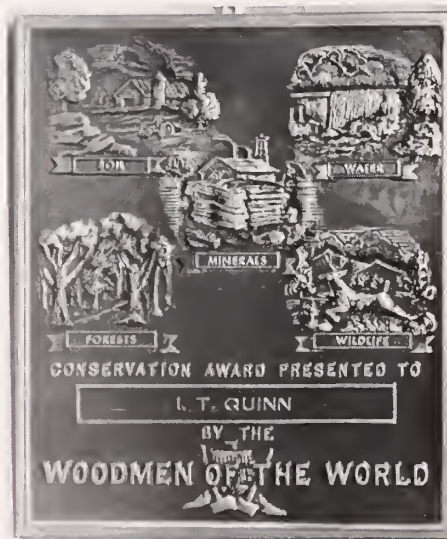
"A thorough inspection indicated that the bird starved to death or else had died because of some stomach disorder. From information which I have received I believe that it perhaps starved since poor eyesight would have prevented its ability to sight and catch all the insects needed for its subsistence."

"In all my long history of studying

and following this species I have never seen or read about an Albino. I have on two occasions witnessed two female species that had some white spots on the back. One returned to the same box and the same nesting compartment for several years in succession and one was seen only one season."

I. T. QUINN NAMED CONSERVATIONIST OF THE YEAR

I. T. Quinn, executive director of the Commission of Game and Inland Fisheries, was presented with a hand-finished aluminum plaque on July 27 by the Woodmen of the World "in recognition of his outstanding service to Virginia and to the nation in the field of conservation." The award was made by president of the society, Farrar Newberry, before 800 members who attended the banquet in the Winter Garden of the Hotel Richmond.



"The award came as a complete surprise to me," Quinn said. "While I knew the Woodmen of the World to be a fraternal organization and interested in the field of conservation, I did not know that it had set up a committee for the purpose of select-

ing the conservationist of the year. I am grateful and humbly proud of this award and national recognition."

BIG GAME CONTEST

Preparations again are being made to hold the statewide Big Game Trophy Contest to determine the best whitetail deer and black bear trophies killed during the 1952-53 hunting season. As in the past, there will be two regional contests, one for Big Game trophies killed west of the Blue Ridge, and one for Big Game trophies killed east of the Blue Ridge, with winners from the two regional contests being brought together to determine the statewide winner.

The Harrisonburg - Rockingham Chapter of the I.W.L. will sponsor the contest for the western part of the state and will hold their contest on October 24, 1953 at Harrisonburg, Virginia. The Peninsula Sportsmen's Association will again sponsor the contest for the eastern part of the state and will hold their contest on November 7, 1953 at Newport News, Virginia.

Valuable prizes will be awarded the winners in each regional contest. The state contest, which in the past has been held in Richmond, will be held this year at Newport News on November 7, as a climax to the eastern contest. The winners in the western contest will be brought to Newport News for this event.

The statewide contest will be sponsored by the Commission of Game and Inland Fisheries, which will provide suitable trophies for the winners, and by the Peninsula Sportsmen's Association. It is planned to hold the State contest next year, 1954, in the western part of the State in conjunction with that regional contest.

This year there will be three classes of deer heads eligible for the state

contest. They are: ten points or more; six to nine points, inclusive; and five points or less. As in the past, there will be only one class for the black bear trophies. Winners from all of the above classes in the regional contests will be eligible for entry in the state contest. The additional classes for the white-tail deer have been added to encourage hunters who have killed deer with a small number of points, but otherwise good trophies, that stand no chance of

winning against the larger heads, to compete on an equal basis with other heads of similar size.

To be eligible for entry in the state contest, all trophies must first have been entered in a regional contest and they must have been one of the first three winners in their respective class in a regional contest. Deer and bear must be entered in their respective area contest, i.e., if the bear or deer is killed east of the Blue Ridge, it must be entered in

the contest for the eastern part of the state.

Any deer or bear head legally killed in 1952-53 is eligible for entry in the contest.

Sportsmen desiring to enter in the competition or wishing more information should feel free to contact either George B. Johnson, 60 Hopkins St., Hilton Village, Virginia, or Peter J. Hanlon, United States Forest Service, Harrisonburg, Virginia.

Black Bass Behavior

By ROBERT MANN and DAVID H. THOMPSON

There are some peculiar expressions in our American slang. We admire "a smart cookie" but "a poor fish" is held in contempt, as if fishes were the dumbest creatures on earth. They may seem dumb, and some kinds probably are, but—to expert fishermen and scientists who study the behavior of fish—the black basses, for instance, appear to be as alert and intelligent as many of the so-called higher animals. In Illinois, where there are three species of them, they are the Number One fish for most anglers. The largemouth black bass thrives in lakes and the more sluggish streams throughout the state. The smallmouth bass and the spotted bass prefer faster moving streams, the former being restricted to the modern half of Illinois and the latter to the southern part.

Black bass strike best in waters which are fished very little or, in more popular spots, when the season first opens. As more and more people come to try their luck, the time between bites rapidly becomes longer and longer until even the experts may go home empty-handed. Contrary to popular belief, this does not mean that most of the bass have been caught out. It merely demonstrates

that the fish have become "smart" and wary: they have learned to avoid those gaudy artificial flies or plugs, and even tempting live baits on the end of a line.

This was strikingly shown in a lake near Charleston, Illinois, operated experimentally by the State Natural History Survey for a study of bass fishing and how to improve it. In 1949, with 1027 marked bass in the lake, it took an average of only 24 minutes, each, to catch the first 50 but, by the end of the first day of fishing, it took more than two hours to catch a bass. On the second day, it took from 5 to 6 hours, and from 10 to 15 hours on the next three days. In other words, although most of them were still in the lake, it took about thirty times as long to fool a bass as it did at first. The memory of an escape from the hook, or perhaps the sight of a fellow bass caught and struggling, was apparently enough warning for the others to beware of those colorful gadgets.

Largemouth black bass really see color as color and not as shades of gray—which is the way most mammals see it. In another series of experiments by the Survey, young bass, each in a separate aquarium, were

shown a red medicine dropper, and, after they came close for a good look, rewarded by a water flea or a mosquito wiggler squirted from it. Then they were shown droppers colored yellow, blue or green, respectively, but were punished with a small electric shock if they came too close. After only 5 to 10 such training trials, the fish would hover close to the red dropper, waiting for food, but would back away to the far side of the tank if any other color was shown. Similarly, other fish were trained to come to yellow, green or blue droppers. They were able to distinguish most of these colors from a confusing series of gray droppers ranging from white to black. They had trouble telling yellow from pale gray, and blue from dark gray or black. Surprisingly, it was proved that bass see colors about as well as a human being wearing yellowish sun glasses.

Further, the Survey has found that each smallmouth black bass seems to have a favorite home, usually in a shaded pool, where it spends most of its life. And that most of them are able to find their way back home after being caught, tagged, and hauled to another part of that stream, or even another stream in the same river system.



Field Force Notes

KEEN EYES AND QUICK THINKING

On May 7, 1953, Special Warden William H. Fadeley and Game Warden Elon D. Sheetz of Shenandoah County were patrolling trout streams in the Massanutten Mountains. Two fishermen were fishing in Mud Hole Gap. As they approached Warden Fadeley in the road coming toward their car, one was on the right and one on the left. Fadeley noticed that the one on the right stepped to the side of the road, then back into it. Then they came on to the car where Fadeley was waiting for them.

Licenses and creel limits were checked on the spot and found to be in order. Each fisherman had the limit of trout in his creel. Sheetz was down stream and Fadeley called to him. They went to investigate the place where the fisherman had stepped out of the road. Five trout were lying there and they were dressed exactly like those in the creels.

Both these fellows had assured the wardens that there was no one else up stream, since they did not want them to go up and find the fish which had been dropped. When questioned, both denied very vigorously having dropped any trout in excess of the daily limit. However, Warden Sheetz had a warrant issued for the one who had been walking on the side of the road where the fish had been dropped. He first denied having stepped to the side of the road, but later admitted that he had stopped to get a stick out of his shoe.

When Warden Fadeley testified that he did not stoop over at all, but simply stepped to the side of the road where the fish were found, Judge Wright evidently thought he had some very strong circumstantial evidence, for he found the fisherman guilty over the very strong protests

of his able defense attorney and the results are on the prosecution card. They said they were going to appeal at once, but they changed their minds about that.

This was the first case in which Special Warden Fadeley had testified and he is to be complimented highly for his keen observation and alertness.

HURRICANE SLAUGHTERS RAILS ON EASTERN SHORE

Hurricane winds, rain and pounding waves from the Atlantic Ocean engulfed the saltwater marshes of Northampton and Accomack coun-



An Eastern Shore rail, one of the victims of the storm.

ties on the Eastern Shore last August 14, drowning and injuring thousands of clapper rails roosting in the tall marsh grasses. Game Warden, E. C. Cropper from Accomack County reported.

According to Cropper, thousands of the little sage hens, some not yet old enough to fly, were tossed from their roosting marshes onto roads and run over by cars, whereas others were drowned or knocked unconscious by the high winds and merciless waves.

Cropper related an incident where a State policeman called him about a load of clappers he had picked up dead from the storm. Upon arriving at the scene, Cropper found that 150-200 rails picked up for dead, had come back to life after a short rest from the buffeting elements. They

had been either knocked out or were exhausted, but after being released back into the marsh, all are doing fine.

Many reports of persons taking unfair advantage of the little sage hen during its plight reached Cropper and other wardens, but none was substantiated. Claims that some persons picked up exhausted birds, weary from their fight against the storm, and wrung their necks and stocked their deep freezers, were common.

The 85 miles per hour winds left over 200 birds lying dead from Route 13 to Chincoteague, Cropper reported.

DEER MORTALITY RECORDS SOUGHT FOR STUDY

In connection with the current white-tailed deer investigations in Virginia, project leader Stuart Davey found that in Augusta County wardens H. I. Todd and Clemmer Miller, now Supervising Warden, had kept mortality records of deer since 1936.

Starting with totals of only three in 1936 and 1937, the mortality figures grew to 19 in 1940, 36 in 1943, and 51 in 1945. Now in Augusta County the yearly totals are about 75-80. The figures are, of course, of varying accuracy when it comes to the percent each figure represents in the county, but it is enlightening to note that of each 100 deer now found dead, 40 are illegal, 18 unknown cause, 18 by cars, 17 by dogs, 6 in fences and about one percent from miscellaneous causes such as railroads, mowers, floods, bear or fighting.

Davey is anxious to learn whether other wardens in Virginia have been as observant and have taken time to record their findings. He says it would be most helpful to compare the figures from Augusta County with those of other counties in an attempt to answer the question: "Where and how are our deer being killed?"

MIGRATORY GAME BIRD REGULATIONS IN VIRGINIA 1953-54



RAILS AND GALLINULES

CLAPPER RAILS AND GALLINULES:

Season: September 1 - October 30.

Bag Limit: Fifteen a day in the aggregate of rails and gallinules, 15 in possession.

Hours: From one-half hour before sunrise to sunset each day.

SORA:

Season: September 1 - October 30.

Bag Limit: Twenty-five a day, 25 in possession.

Hours: From one-half hour before sunrise to sunset each day.

DOVES

Season: September 16 - September 30.

October 17 - October 31.

Bag Limit: Eight a day, 8 in possession.

Hours: From 12 o'clock noon till sunset each day.

JACKSNIPES OR WILSON'S SNIPES

Season: November 17 - December 1.

Bag Limit: Eight a day, 8 in possession.

Hours: From one-half hour before sunrise to sunset each day.

WOODCOCK

Season: November 17 - December 26.

Bag Limit: Four a day, 8 in possession after the first day.

Hours: From one-half hour before sunrise to sunset each day.

WATERFOWL (DUCKS, GEESE, BRANT, COOTS)

Seasons: Ducks, Geese, Coots—November 11 - January 9.

Brant—November 11 - November 25.

Hours: From one-half hour before sunrise to sunset, except on the opening day shooting shall not begin until 12 o'clock noon. Except at Back Bay no hunter shall be permitted to leave shore before one-half hour before sunrise and shall not be allowed to fire his gun before sunrise.

Bag Limits: Ducks, four a day, 8 in possession after the first day, one of which may be a wood duck.

Geese, two Canada geese a day, 4 in possession after the first day.

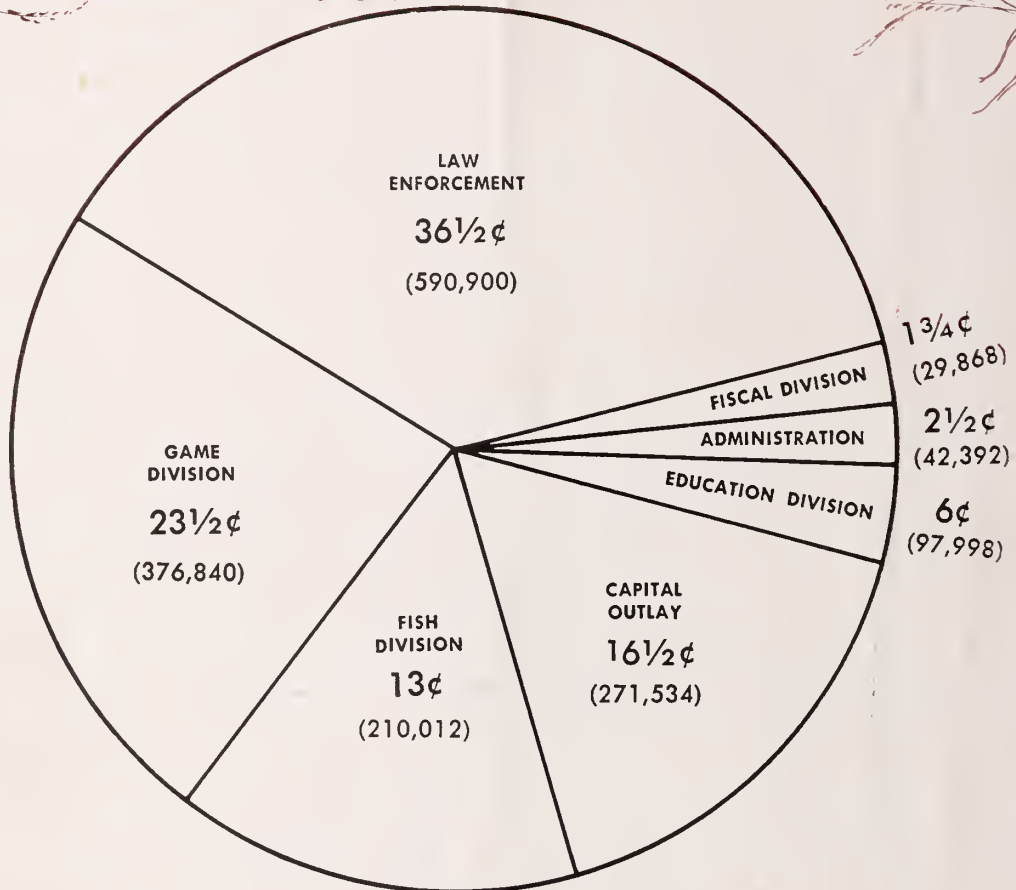
Coots, ten a day, 10 in possession.

Brant, six a day, 6 in possession.



HOW THE DOLLAR WAS USED

FISCAL YEAR
1952-1953



TOTAL EXPENDITURE \$1,619,544

FUNDS RECEIVED

Hunting licenses	\$ 785,290
Fishing licenses	449,711
Trapping licenses	6,392
Dog licenses	117,299
Federal aid	191,912
National Forest Stamps	62,768
Miscellaneous	52,075
TOTAL	\$1,665,447

VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES